Arkena

U S E R G U I D E

Testgrid User Documentation

Arkena
27, bld Hippolyte Marquès
94200 Ivry sur Seine
FRANCE

Last Update: 08.2014

Table of Contents

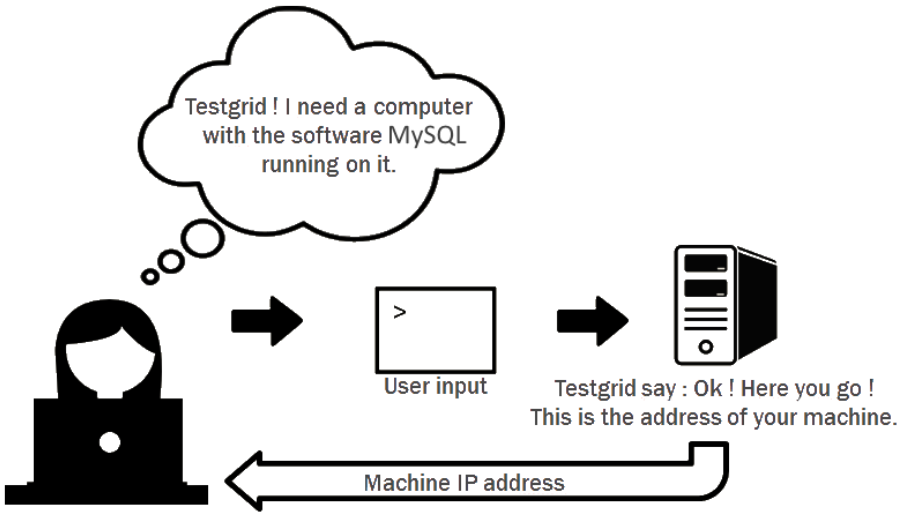
Arkena

What is Testgrid

Testgrid is a software that will give the ability to deploy an indefinite number of on-demand and programmable test environment quickly, with customizable requirements. The Testgrid has to provide flexibility.

Schema & Use Case

Basic Use Case

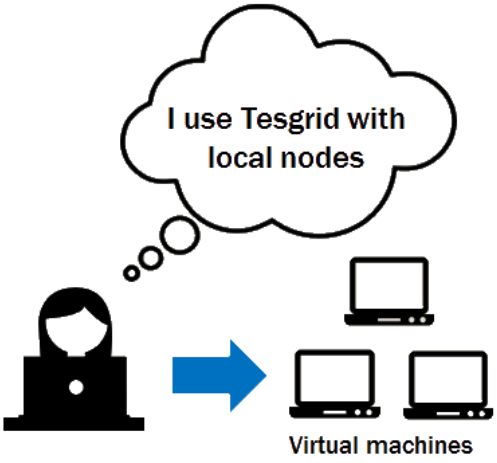


There is two ways for the user to interact with Testgrid:

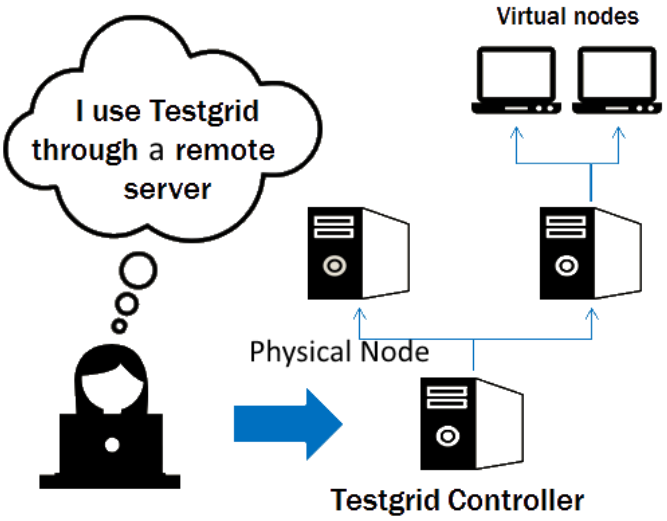
- Directly launch command from a terminal.
- Use the Python API to interact with Testgrid.

Two interactions possible

- Local client,
  VM deployment on own machine
  Local Deployment



- REST Client,
  Communication with a remote server
  Deployment on remote nodes



Configuration File

There are two ways to configure a file: Local & Rest mode

Rest client:

```
[controller]
host=testgrid.controller.com
port=80
```

Local client grid sample using Vagrant:

```
[grid]
type = vagrant grid
path = /Users/user/Documents/work/boxes
```

Those files could be used to manage virtual machine using Vagrant on your own computer.

Command line tool explanation

Following, the list command that provides all the information stored in Testgrid:

Arkena

Basic Commands

```
> testgrid --list-nodes

name   type                   status      allocation user  session
-----  ---------------------  ----------- ---------- ----- -------
node1  remote  node/wheezy64  up          allocated  root  test
node2  remote  node/wheezy64  up          allocated  root  test
node3  remote  node/wheezy64  unreachable allocated  root  test
node4  remote  node/wheezy64  unreachable quarantine
node5  remote  node/wheezy64  up          available
```

```
> tg --open-session test
> tg --list-sessions

username  name
--------  ----
root      test
```

Deploy a node Sample

```
> tg --list-nodes
name   type                   status  allocation  username  session
----   --------------------   ------  ----------  --------  -------
node1  remote node/wheezy64   up      available   -         -
node2  remote node/wheezy64   up      available   -         -
node3  remote node/wheezy64   up      available   -         -
```

```
> tg -s test -deploy -deb sqlite3 fleche mysql
package sqlite3 installed on node node1
package fleche installed on node node2
package mysql installed on node node3

> tg --list-nodes

name   type                  status  allocation  username  session
----   --------------------  ------  ----------  --------  -------
node1  remote node/wheezy64  up      allocated   root      test
node2  remote node/wheezy64  up      allocated   root      test
node3  remote node/wheezy64  up      allocated   root      test
```

The “release-node” command release the specified nodes.

```
> tg -s test -release-node node1
> tg --list-nodes

name   type                  status  allocation  username  session
----   --------------------  ------  ----------  --------  -------
node1  remote node/wheezy64  up      available   -         -
node2  remote node/wheezy64  up      allocated   root      test
node3  remote node/wheezy64  up      allocated   root      test
```

The “Undeploy” command release all the nodes for a specific session.

```
> tg -s test -undeploy
> tg --list-nodes

name   type                  status  allocation  username  session
----   --------------------  ------  ----------  --------  -------
node1  remote node/wheezy64  up      available   -         -
node2  remote node/wheezy64  up      available   -         -
node3  remote node/wheezy64  up      available   -         -
```

Node Allocation

Add node specification in a .ini file:

```
> cat  /etc/tg/rest-client.ini
[controller]
host=testgrid.controller.com
port=80

[alloc]
sysname = wheezy64

> tg -s test-alloc --allocate-node alloc
> tg -s test-alloc -list-nodes

name   type                  status  allocation  username  session
----   --------------------  ------  ----------  --------  ----------
node1  remote node/wheezy64  up      allocated   root      test-alloc
```

```
> tg -s test-alloc -n node1 -install -deb sqlite3
```

Ansible Integration

This part requires to be familiar with Ansible.

Testgrid can be used to generate a group of host as an inventory for Ansible.

External Inventory Script

```
> cat node-description.ini
[ansible-role1]
Sysname= wheezy64
[ansible-role2]
Sysname = wheezy64

[session-inventory]
nodes = ansible-role1, ansible-role2
```

```
> cat inventory-file
ansible-role1
ansible-role2

[group1]
ansible-role1

[group2]
ansible-role2
```

```
>  tg -s session-inventory --inventory  path-to-inventory-file --session-
manifest node-description.ini
Session-inventory.py will be generated

> ansible-playbook -i session-inventory.py  /path/to/yml/site.yml
> tg -s session-inventory -list-nodes

name           type      status  allocation  username  session
-------------  --------  ------  ----------  --------  --------
ansible-role1  wheezy64  up      allocated   root      session-inventory
ansible-role2  wheezy64  up      allocated   root      session-inventory
```

Launch ansible-playbook through Testgrid

Store Ansible deployment in web server. Package with yml and inventory file must be installed on the machine that runs the Testgrid controller or the machine that run Testgrid in local mode.

```
> cat /etc/tg/web-server.ini
[tg-web-server]
host = 10.22.1.1
port = 80
ssh-key = /home/tg-user/id-rsa

> cat my_pkg.ini
[ansible-role-1]
image_name = squeeze
```

Arkena

```
[ansible-role-2]
image_name = wheezy

[ansible-role-3]
image_name = squeeze

[ansible-role-4]
image_name = wheezy

[my-pkg]
inventory_path=/path/to/inventory/file
playbook_path=/path/to/yml
nodes= ansible-role-1 ansible-role-2 ansible-role-3 ansible-role-4

> cat inventory-file
ansible-role1
ansible-role2
ansible-role3
ansible-role4

[group1]
ansible-role1
ansible-role2

[group2]
ansible-role2
ansible-role4
```

```
> tg -s test --ans-playbook  my_pkg
> tg -s test -list-nodes

name           type      status  allocation  username  session
-------------  --------  ------  ----------  --------  --------
ansible-role1  squeeze   up      allocated   root      test
ansible-role2  wheezy64  up      allocated   root      test
ansible-role3  squeeze   up      allocated   root      test
ansible-role4  wheezy64  up      allocated   root      test
```

Arkena

Nodes type specification

Vagrant

```
[vagrant-centos]
box = "centos63-64"

[vagrant-squeeze]
box = "squeeze64"

[vagrant-wheezy]
box = "wheezy64"
```

Installsystems

Testgrid can deploy virtual machines using installsystems.

Link to installsystem project:

https://github.com/seblu/installsystems